



Environmental Restoration Project

Need

Present project activities include cleanup of a classified materials landfill, excavation of a hazardous waste disposal landfill and investigative work leading to closure of a mixed waste landfill.

Description

Since the project's inception in 1990, ER staff have identified approximately 240 potentially hazardous sites both in New Mexico and elsewhere. To date we have cleaned up and/or proposed 200 sites for no further action (NFA). Sites proposed for NFA were identified as having essentially no risk to human health or the environment through administrative record searches, site assessment, and risk analysis procedures.

ER Project staff routinely team with private industry for help in completing assessment and remedial actions. For example, a robotics technology developed by a private company was used at a radioactive waste landfill and the chemical disposal pits in Sandia's Technical Area II. The remote telerobotic system uses cameras and a computer-controlled robot arm that allows cleanup personnel to visually inspect material, perform remote chemical and radiologic surveys, retrieve material selectively, and package it for disposal without ever coming in direct contact with hazardous constituents or environments. Another telerobot system was tested at Sandia Technical Area III during remediation of a large gas cylinder disposal pit. In a continuing teaming effort with several universities, ER staff at the Chemical Waste Landfill at Sandia have coordinated with staff at the University of Texas at Austin for a partitioning interwell tracer test, and with the University of New Mexico for a biotreatability study at the site.

The ER Project established a chemistry laboratory for performing rapid, quality analyses in support of the Project. Routine analyses include volatile organic compounds, metals, high explosives, nitrate, anions and laboratory hydrologic properties; ancillary analytical capabilities include semivolatile organic compounds, and PCBs.



Field Test of RETRVIR at Gas Cylinder Disposal Pit

Accomplishments

1. A team of experts from industry and Sandia have cleaned up a gas cylinder disposal pit in Sandia's Technical Area III, preventing the spontaneous release of hazardous gases from corroded cylinders. The team developed special safety and quality assurance procedures for this project; these can now be used at other sites requiring similar excavation techniques.

2. Cleanup of low-level radioactive contamination scattered over a number of sites has been completed at Sandia. The ER teams, working with private industry, catalogued and mapped about 4000 hot spots. They removed the radioactive materials and screened the remaining soil for residual activity in order to segregate contaminated from uncontaminated material. This approach greatly reduced disposal costs—a significant factor in any cleanup project.

3. Sandia recently remediated a site that contained World War II vintage ordnance material in approximately 4000 cubic yards of soil piled in mounds. A field operations plan that contains a project-specific health and safety plan was developed by a Sandia-led project team that included the Kirtland Air Force Base Explosive Ordnance Disposal group and unexploded ordnance (UXO) specialists from private industry. The field work was completed 2 weeks ahead of schedule and 55% under budget. The field operations plan can be used with other sites containing UXO hazards and includes detailed field protocol for radiation and chemical screening, as well as UXO excavation and handling procedures.

4. Sandia has developed expertise in conducting site hydrological investigations and vapor-phase remediation projects.



Locating Bits of Depleted Uranium

Customers

Our principal customer is the Department of Energy, Kirtland Area Office, Sandia's co-permittee for site restoration under RCRA and other environmental regulations. We are also available for consulting with other agencies with sites that have hazardous or radioactive contamination resulting from weapons testing, waste disposal, or other operations—the Department of Defense, Department of Energy, Environmental Protection Agency.

Team Members

Dick Fate is the project manager of the Environmental Restoration Project. More than 90 highly qualified technical staff, both Sandians and contractors, and five Sandia line managers assist him in carrying out ER work.

Contacts

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